

# Outline

- Transformer Capacity
- Clean Energy RFP Control
- Corporate Clean Energy Access
- Rate Cases
- Grid Modernization
- Rooftop solar
- Community solar
- Solar Project Interconnection
- Atlantic Coast Pipeline
- Coal Ash

# Transformer Capacity Rating

## Background

- Transformers have 3 capacity ratings—low, medium, and high—and Duke Energy has used the highest capacity rating when determining how much generation a transformer can handle
- Duke Energy recently changed to use the low rating as a “best utility practice.” 20-30% of solar projects in development exceed the low capacity rating of associated transformers
- H 589 grandfathered projects in the queue, allowing interconnection using pre-H 589 rules
- Duke Energy’s change to low capacity ratings forestalls many solar developments that are planned or under construction. Duke Energy did the same thing in SC, and developers are filing a dispute with the commission
- Stakeholders: solar industry, Duke Energy

## Issue

- Using the low transformer capacity rating would prevent the connect of solar projects planned or under construction

## Status

- Negotiations between solar industry and Duke Energy are at an impasse

# Clean Energy RFP Control

## Background

- H 589 requires Duke Energy to do an RFP for 2660MW of clean energy over 4 years and calls for an independent RFP administrator
- H 589 recognizes that selection of RFP winners depend upon many factors (e.g., location), not just price and volume
- Parties to the H 589 negotiations other than Duke Energy—e.g., Rep. Szoka, solar industry, environmental groups—understood that the RFP administrator would select winners of the RFP
- Duke Energy says it will select the winners and the RFP administrator merely runs the RFP process
- Stakeholders: solar industry, wind industry, Rep. Szoka, Duke Energy

## Issue

- Solar industry, enviros, and others are concerned about Duke Energy exerting ultimate control over selection of projects

## Status

- Waiting for NCUC decision any day
- Potential technical correction bill

# Corporate Clean Energy Access

## Background

- 63% of the Fortune 100 and half of the Fortune 500 have internal goals for greenhouse gas emissions or renewable energy
  - Amazon: 50% renewable energy by 2018, 100% renewables commitment
  - Google: will achieve 100% renewables for global operations in 2017
  - Facebook: 50% clean energy by 2018, 100% renewables commitment
  - VF Corporation: 100% renewables at owned and operated facilities by 2025
- Companies have difficulty acquiring renewable energy in North Carolina
  - No 3<sup>rd</sup> party sales—Companies can't buy electricity from a solar developer at competitive rates
  - Financial assurance—Duke Energy requires companies to pay up front the entire energy bill for the contract period
  - Avoided costs—Duke Energy will pay less for renewable energy (avoided cost), but rates are increasing
  - Corporate clean energy program (Green Source Rider)—H 589 specifies 250MW for companies
  - High electricity rates—NC highest rates of Google states.
  - Cannot procure renewable energy to meet 100% of electricity needs
- Stakeholders: Google, VF, Walmart, CERES, Rep. Szoka, Duke Energy

## Issue

- Risk of losing corporate headquarters and facilities to other states where acquisition of clean energy is cheaper and easier

## Status

- Corporate concern that NC energy policies increase the difficulty and cost of acquiring renewable energy

# Rate cases

## Background

Public Staff 2.9%

- Duke Energy is asking for rate increases for DEP \$477.5M/yr (ave. of 14% increase) and DEC \$611M/yr (ave of 13.6% increase)
- Rate increases would pay for
  - Natural gas power plants and solar projects
  - Clean up / management of coal ash storage,
  - Preconstruction costs of abandoned nuclear plant
  - General infrastructure investments (e.g., substations, transformers)
  - Hurricane Matthew repairs
  - Smart meters
- Grid modernization
  - DEP plans to invest ~\$6B and recover costs + interest later
  - DEC seeks a ~\$7B rider (prospective charges, annual true-up)
- Stakeholders: NCSEA, NCCEBA, SELC, NC Cons. Network, EDF, Duke Energy

# Rate cases

## Issues

- First of a series of potential rate increases
- Partial recovery through increased fixed charges

## Status

- At NCUC now. DEP rate case hearing Nov 20. NCUC decision by Feb 1.
- Filings for DEC rate case to NCUC through January. Rate case hearing Feb 19. NCUC decision by spring 2018.

DEP Expense	Cost (\$ millions/yr)
New Generation (Asheville, Sutton, Solar)	253
Coal ash cleanup (retrospective)	66
Coal ash cleanup (prospective)	129
Other Costs	29
Subtotal of Increases	477

DEC Expense	Cost (\$ millions/yr)
New Generation (Lee CC, solar)	101
Lee Nuclear	53
Other capital costs	182
Coal ash cleanup (retrospective)	135
Coal ash cleanup (prospective)	201
AMI & Software	60
Decreases (deferred tax liability)	-121
Subtotal of Increases	611

# Grid Modernization

## Background

- Duke Energy Power/Forward Carolinas seeks a \$13B investment in grid “modernization” over 10 years

\$4.9 B	Underground lines
\$3.5B	Distribution hardening and resiliency (replace cable, security, redundancies, transformers)
\$2.2B	Transmission Improvements (security, flood protection, line upgrades)
\$1.2B	Self-optimization
\$103M	Back-office systems
\$549M	Advanced metering infrastructure
\$546M	Communication Network (4G LTE for transmission and distribution services)

- DEP gave NCUC an FYI that it plans grid mod investments and will seek recovery in the future
- DEC asked NCUC for the ability to recover grid mod expenses through a rider
- States assess grid mod investments in different ways: separate proceeding, legislation requiring up-front plan, rate case
- Rate cases typically reserved for customary grid investments—poles, wires, transformers, substations—which are nondiscretionary and inherently benefit the public. Grid mod involves discretion, tradeoffs, and policy implications.
- Stakeholders: NCSEA, NCCEBA, SELC, NC Cons. Network, EDF, Duke Energy

# Grid Modernization

- PowerForward NC

## Issue

- Clean energy and environmental groups want the NCUC to establish a separate proceeding for grid modernization.
- Why?
  - \$13B is a huge investment
  - Grid mod differs from grid investments in typical rate cases because grid mod involves consequential choices and tradeoffs
  - Duke Energy has provided few details on its grid mod plan, e.g., which technologies it will invest in
  - Need stakeholder participation to analyze the grid mod plan, assess the cost-benefit ratio of investments, ensure customer benefits, etc.
  - Rate case standard ("used and useful") only assesses the prudence of investments after-the-fact, which does not fit with such a large, consequential investment
  - Separate proceeding would allow establishment of performance targets and metrics that grid mod investments would be measured against for recovery

## Status

- At NCUC now. DEP rate case hearing Nov 20. NCUC decision by Feb 1.
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# Rooftop Solar

## Background

- Rooftop solar industry is struggling because NC solar tax credit expired in 2015
- H 589 includes a solar rebate program for 100MW between DEP and DEC from 2018-2022
- Duke Energy has until end of January 2018 to file the details of the rebate program
- Rooftop solar industry wants Duke Energy to provide program details soon (e.g., rebate price) so that customers will install projects now, rather than delay further
- Stakeholders: NC SEA, Duke Energy

## Issue

- Duke Energy has not said when it will file solar rebate program details
- Rooftop customers are delaying projects

## Status

- Awaiting program details

# Community Solar

## Background

- H 589 calls for Duke Energy to put forward a community solar program, which provides residential access to solar energy from an off-site solar installation
- Billing individual homes is complex and requires sophisticated software that Duke Energy does not have
- Duke Energy will file to the NCUC in a few weeks rules for a community solar program and in January a plan to implement the program
- Advocates are concerned that Duke Energy will submit to the NCUC high program costs because it wants to own the billing software, rather than outsource
- Advocates say Duke Energy is unwilling to work with them on program details
- Stakeholders: NC SEA, Duke Energy, environmental groups

## Issue

- Potential for community solar program costs that are higher than necessary and discourage customer participation

## Status

- Awaiting Duke Energy program details

# Solar Project Interconnection

## Background

- Duke created new technical standards and certification requirements for connecting solar projects to the grid
- Standards and certification provides quality control across solar projects but will cost solar developers \$10k-\$20k per project
- Shortage of inspection slots through 2017
- Stakeholders: solar industry, Advanced Energy, Duke Energy

## Prior Issue

- Delays and additional costs for solar interconnections

## Status

- Resolved through negotiations hosted by the NC Public Staff and solar developers, Advanced Energy, and Duke Energy
- Projects can receive partial certification in 2017 and begin generating before final certification in 2018

# Atlantic Coast Pipeline

## Background

- Duke Energy, Dominion, and others would purchase natural gas transmitted through the pipeline
- FERC approved the CPCN for ACP on October 13
- ACP needs multiple state permits to proceed
- Duke Energy would recover fuel and transmission costs through a fuel rider after NCUC proceedings
- ACP, LLC would get a 14% return on investment (established by FERC) in the pipeline itself
- Stakeholders: Duke Energy, Dominion, community groups, environmental groups, local governments

## Issue

- State permitting decisions on ACP applications

## Status

- State permit applications under review

# Coal Ash

## Background

- Alternate Drinking Water
  - Duke Energy must provide an alternative source of drinking water—municipal water hookup or a water filtration system—for homes within a half mile of a coal ash pond
  - DEQ has established for filtration systems performance standards consistent with ground water standards for various constituents
- Discharge permits: DEQ is reviewing wastewater permits for coal ash facilities
- Dam safety: DEQ is half way through reviewing Duke's repair plans for 63 areas of concern DEQ identified through inspections

## Issue

- Getting residents an alternative source of drinking water

## Status

- Duke Energy and DEQ addressing water access

